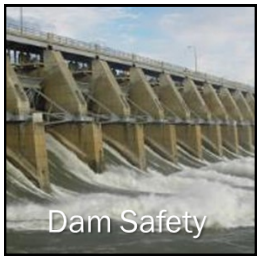
Summer2016

Issue 51

Nebraska Department of Natural Resources

Water Today. Water Tomorrow.

Quarterly Newsletter



Department Restructuring Announced

Director Jeff Fassett recently unveiled a new organizational chart for the Department of Natural Resources.

The restructuring creates three branches, each headed by a deputy director.

Rex Gittins becomes the deputy director of management services, overseeing the activities of special projects, human resources and finance and information technology.

Susan France remains head of special projects, and Kim Menke will stay as head of information technology. A head for the newly-created human resources and finance division is yet to be filled.

The two other deputy directors, when hired, will head water administration and planning and engineering.

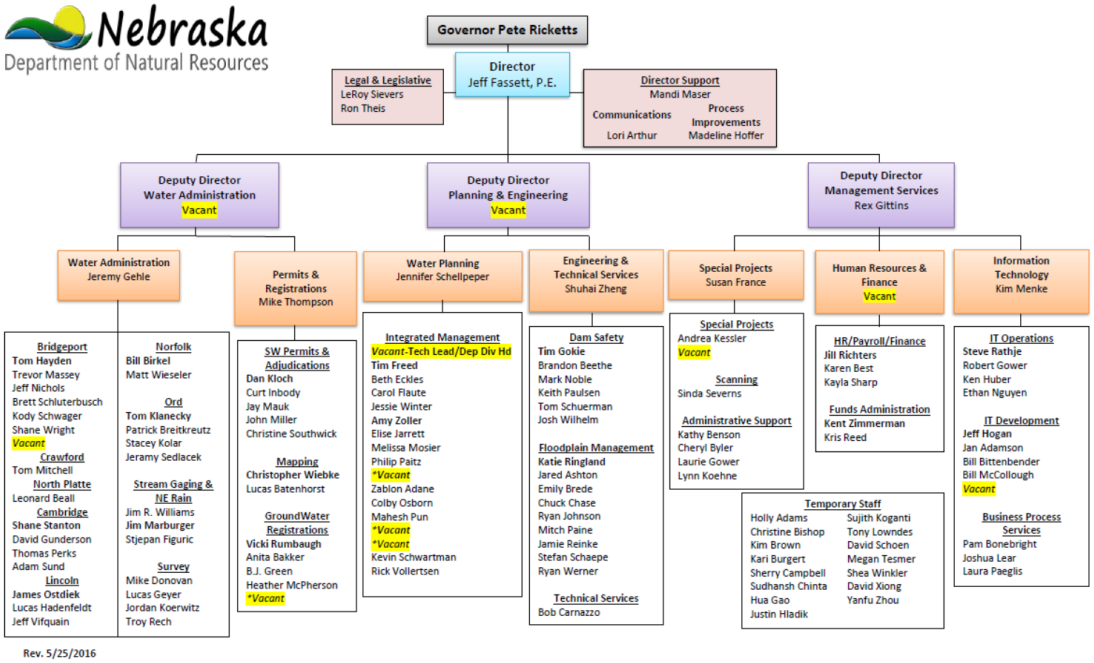
The water administration branch includes a water administration division headed by Jeremy Gehle and permits and registrations headed by Mike Thompson.

Planning and engineering includes water planning, which remains under the guidance of Jennifer Schellpeper, and engineering and technical services headed by Shuhai Zheng.

"The restructuring plan is not a significant shift," Fassett said, "but advances a more logical organization of key agency responsibilities and enhances the coordination, communication and cooperation across the divisions."

With the new positions and shifts, the current space on the fourth floor of the Nebraska State Office Building will need to undergo a few changes of its own. New offices will be created by shifting the current floorplan.

While the shift is being made, new carpet and an updated agency lobby are also in the plans. The office was slated for an update, so the timing is perfect.



NeDNR Responds to Dam-Related Emergencies

By Tim Gokie

Dam Safety responded to two dam-related emergencies in May. During a routine inspection of a dam in Seward County, NeDNR staff found a large sinkhole had developed on the upstream slope of the dam and water appeared to be flowing through a cavity in the dam that had developed around the principal spillway pipe. The second emergency took place near Waterbury in Dixon County. Recent rains and subsequent runoff had caused a deep erosion gully and headcut to form in the dam's vegetated earthen spillway. The erosion gully was threatening to break through the remaining segment of the spillway and cause an uncontrolled release of the reservoir. NeDNR engineers quickly estimated that such a release could result in damage to six homes, a state highway, and a railroad in the Village of Waterbury. To prevent loss of lives, the downstream homes were subsequently evacuated and the downstream roads were closed.

Destruction downstream of a dam failure in Knox County, NE in 2010 stretched for several miles. (NeDNR Photo)

In both cases, NeDNR engineers worked closely with the dam owners and decided that a controlled breach of the structures would be the best course of action. The controlled breach of the dam near Waterbury began within two hours of NeDNR being notified of the situation. The dam owner hired a contractor and an excavator was brought in to slowly lower the dam, 6 inches at a time. Within a few hours, the threat posed by the dam was removed thanks to the intervention of the dam owner and local emergency personnel. In Seward County, an excavator was also used to cut a notch through the dam. With the notch in the dam, it can no longer impound water and it no longer poses a risk to those living downstream.

In addition to responding to these emergency situations, NeDNR staff review design plans for new dams, conduct dam inspections throughout Nebraska, and work with dam owners to protect life and property from dam failures.

7 Things Every Dam Owner Should Know

By Tim Gokie

The 2,900 dams included in the Nebraska Dam Inventory are owned by a wide spectrum of federal and state agencies, local governments, private associations, corporations, businesses, and individuals. Few dam owners in Nebraska have any formal training in the maintenance and operations of dams. Some chose to be a dam owner when they constructed a dam on their property, but many others became a dam owner simply by coincidence. A loved one passes away and they become a dam owner when they inherit land that happened to include a dam. Or, they became the de facto dam operator when they volunteered to be the president of their homeowner's association and the association has a lake with a dam. No matter their background or reason for owning a dam, at a minimum there are seven things every dam owner or operator should know.

Dam being overtopped by floodwater and eroding following heavy rainfall. (photo from

#1 Dams require maintenance. Dam owners are responsible for completing all maintenance and repairs on their dams. Like any infrastructure, dams require a significant amount of maintenance. Without proper maintenance, dams will eventually develop serious

Continued on Next Page

problems that will require costly repairs. Dams should be inspected at least four times a year and following any major rainfall to make sure spillways have not plugged, new seepage areas have not emerged, soil erosion has not developed, and holes or cracks have not appeared. Routine maintenance must include removing trees growing on the dam; clearing debris and obstructions from spillways; repairing soil erosion caused by flowing water, wind, or livestock; and controlling burrowing animals and filling holes.

#2 Dams pose a risk to those who live downstream. In the United States more than 3,500 fatalities have been attributed to dam failures. The failure of a dam often results in dangerous flash flooding that can overtop roadways, sweep away vehicles and destroy homes. Failure of even a small dam can release large quantities of water and sediment capable of causing catastrophic damage for miles downstream.
The most deadly dam failure in U.S. history occurred in Pennsylvania in 1889. The failure of the South Fork Dam killed 2,209 people and caused $450 million dollars in damage (adjusted for inflation). Poor maintenance and alterations to the dam that reduced its spillway capacity contributed to the dam being overtopped by flood water, resulting in the worst man-made disaster in the United States prior to September 11, 2001.

Damage downstream of South Fork Dam in Pennsylvania following its failure in 1889.

#3 Dam owners can be held liable for downstream damage. Thousands of public and private dam owners in Nebraska have exposure to liability for the water stored behind their dams. Nebraska statutes specifically state the owner of a dam shall be liable for all damages arising from the failure of their dam.

#4 What to do during an emergency. If a dam is found to be in imminent danger of failing, the dam owner should take the following actions:

Notify local law enforcement by calling 911. Be prepared to tell them the location of the dam, the severity and nature of the problem, and the downstream area that may be affected.
Do whatever is necessary to bring people in immediate danger to safety.
If time permits, take immediate action to delay, moderate or prevent the failure of the dam.

#5 Even a well maintained dam can fail. The most common cause of dam failure is the dam being overtopped by flood water following extreme rainfall. Overtopping of a dam is often a precursor to dam failure. National statistics show that overtopping due to inadequate spillway design or debris blockage of spillways accounts for approximately 34 percent of all dam failures in the country. Just because a dam has been in place for many years does not mean it cannot be overtopped by an unprecedented flood. It is important to maintain a dense uniform grass cover on the slopes of the dam so it can withstand some overtopping without eroding.

#6 If their dam is subject to regulation. All dams with a height of 25 feet or more, a normal storage capacity of 15 acre-feet or more, or a maximum storage capacity of 50 acre-feet or more are subject to state regulation. Visit the Department's website at http://dnr.nebraska.gov/dam for more information.

#7 Who to contact for help in maintaining their dam. Fortunately for dam owners with no experience in maintaining and operating a dam, there are numerous organizations and professionals that can offer advice and assistance. The Nebraska Department of Natural Resources inspects dams throughout Nebraska and can answer questions about the operation, maintenance, and repair of dams. Local Natural Resources Districts and the Natural Resource Conservation Service can also offer advice and may have specific programs for dams in need of rehabilitation. The Association of State Dam Safety Officials website, www.damowner.org, is full of information for dam owners. Finally, a licensed professional civil engineer with dam-related experience can design modifications to dams to address specific safety deficiencies.

Pilger resident receives national award after NeDNR nomination

Mitch Paine nominated Kim Neiman of Pilger for her dedicated service to residents after the Pilger tornado of 2014

By Mitch Paine

The road to recovery for Pilger, hit by a tornado in June 2014, has been long and arduous; but Kim Neiman, the village clerk, helped her citizens navigate the many rules and regulations of rebuilding and led her community to a more resilient recovery. For her work, she was named the Local Floodplain Manager of the Year by the Association of State Floodplain Managers (ASFPM). The award was presented to her at the ASFPM national conference in Grand Rapids Thursday.

"I'm extremely humbled to receive this award. This is a great reflection on how our community worked together after the tornado," Neiman said Thursday after accepting her award.

After the tornado swept through the village on June 16, 2014, Neiman, a long-time resident of Pilger, stepped up immediately to perform her duties as clerk, emergency manager, volunteer firefighter, floodplain administrator and more. She coordinated with state and local officials and the rising tide of interested visitors, media, and volunteers.

Village residents took shelter in their basements when the tornado hit. Because almost all of Pilger is located in a floodplain, Neiman knew that most would not be able to rebuild with a basement. Not only would she have to deal with a barrage of rebuilding permits, she would have to deal with angry residents who would not understand why.

“Kim is one of the most deserving local officials to be nominated for the ASFPM national award. She is compassionate, empathetic, humble, and deeply knowledgeable about how to keep her community safe and strong,” says Mitch Paine, the

State National Flood Insurance Program Coordinator for the Nebraska Department of Natural Resources, who nominated Neiman.

To help residents understand the reasons behind the regulations and how they benefit the community, Neiman requested and helped organize multiple public open houses for residents to discuss building requirements in the floodplain, the rules of flood insurance, and the benefits of reducing flood risk. She organized six workshops led by federal and state government staff to help understand flood risk and how safe rooms can be incorporated into rebuilt homes to keep families safe from tornados.

“Kim identified the specific needs in Pilger and was a wonderful partner to help ensure that FEMA and the State provided the resources and information that would best benefit her residents in time of need,” says Shandi Teltschik, the FEMA National Flood Insurance Program Specialist for Nebraska.

Above: Larry Larson, ASFPM; Mitch Paine, NeDNR; Ted Neiman; Kim Neiman; Chad Berginnis, Executive Director of ASFPM; Lori Laster, Nebraska Floodplain and Stormwater Managers Association; Brian Varrella, Board Member, ASFPM

Right: Ted and Kim in front of their new home in Pilger.

Neiman did all of this with no place to live of her own. Her house was in the direct path of the tornado and was completely destroyed. In her efforts to rebuild her own house, she built back as quickly as possible to show her fellow citizens that it’s possible to build a house that meets floodplain regulations but also results in a livable, functional home.

“As a testament to the resiliency of Nebraska communities, Kim has been a champion for keeping Pilger and its families safe,” says Lori Laster, with the Nebraska Floodplain and Stormwater Managers Association.

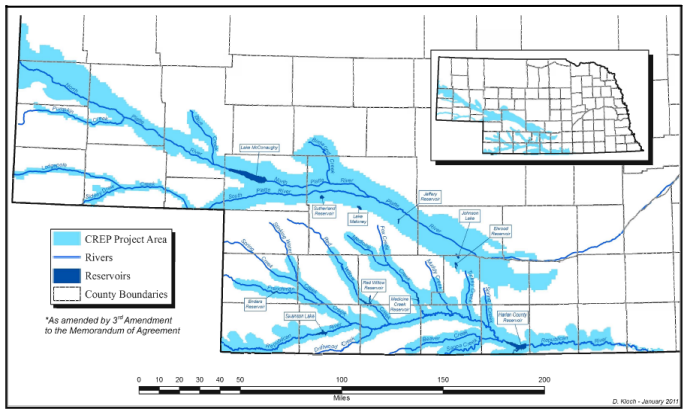
Governor signs new Memorandum of Agreement for CREP

By Susan France

Last month Governor Ricketts signed a new Memorandum of Agreement (MOA) regarding the Nebraska Platte-Republican Conservation Reserve Enhancement Program (CREP) program. The new MOA continues to allow producers located within the CREP area to enter into new contracts with the State and the U.S. Farm Service Agency (FSA) to retire irrigated acres for ten to 15 years in exchange for receiving irrigated rental rate payments from the FSA during the term of the contract. However, the new MOA also allows most producers who have been participating in the CREP program to re-enroll for another ten to 15 years.

Requests for re-enrollment must be filed six months prior to the termination of the original contract and must be approved by both the Department of Natural Resources and the local FSA office prior to termination. Re-enrollment was not allowed under the original MOA which was signed in 2005.

CREP is a voluntary program located in areas that have been determined to be fully- or overappropriated in relation to water quantity. See the map at the right for the location of the CREP area. CREP is part of the U.S. Department of Agriculture's Conservation Reserve Program (CRP). The Nebraska CREP was the first one of its kind in the nation as its purpose includes retiring acres for purposes of reducing water use. Previous CREP programs dealt with water quality and related environmental issues only.



Nebraska Platte-Republican Conservation Reserve Enhancement Pro-

The original goal of the CREP was to retire 100,000 acres of irrigated land and convert it to grass or similar habitat cover to reduce the amount of irrigation water consumption, improve wildlife habitat, and prevent agricultural chemicals and sediment from entering waters of the state. Currently there are approximately 46,000 acres under CREP contracts. The Nebraska Legislature appropriated $ 5,000,000 in 2005 for Nebraska's portion of meeting the MOA. Under the original and new MOA, Nebraska pays half of the costs of establishing and to some extent maintaining the new habitat cover required when converting the irrigated ground to wildlife friendly habitat.

All groundwater-only irrigated acres currently under CREP contracts will be subject to re-enrollment. Acres irrigated with surface water may or may not be subject to re-enrollment. Nebraska laws state that surface water appropriations are subject to cancellation after more than five consecutive years of nonuse. The law then describes certain excusable reasons for nonuse.

One of the excusable reasons that applies up to 15 years is that the lands under the appropriation are under an acreage reserve program or production quota or is otherwise withdrawn from use as required for participation in any federal or state program. In order to maintain surface water appropriations, temporary transfer of the surface water appropriation from an irrigation use to an instream augmentation use is required.

The written agreement of the holder of the surface water appropriation (in some instances this means irrigation district, irrigation and public power district, canal company, or U.S. Bureau of Reclamation) is necessary to process a transfer application. The Department has had discussion with the districts, canal, companies and the U.S. Bureau of Reclamation. In several instances, there are other legal impediments that will not allow the holders of the water rights to agree to the required transfers. In those situations, the re-enrollment of surface water irrigated acres cannot occur.

Surface water irrigators should talk to their irrigation provider (if applicable) prior to making any application to re-enroll.

More Than $11 Million Awarded in Inaugural Water Sustainability Fund Cycle

Natural Resources Commissioners completed the first round of funding through the Water Sustainability Fund and are preparing for the next round.

In April, the Natural Resources Commission approved funding of 17 applications to the Water Sustainability Fund in the first round of funding. The total amount approved was just under $11.5 million.

The chart below shows all of the applications submitted to the Fund. Those highlighted in green were approved.

The commissioners scored each application according to the requirements of the statute. Within their discretion, they could award all of the funds available or fund those applications that best fit the criteria and hold the remaining funds over to the next round.

Wanting to be good stewards of the taxpayers' money, the commissioners chose to fund the highest scoring applications.

Applicants who did not receive funding in April are encouraged to look at their scoring, make adjustments to their applications and submit them again for consideration.

Applications for the next funding cycle will be accepted July 16 through July 31. Applications can be downloaded and submitted on the NRC website www.nrc.nebraska.gov.

Future applications may be filed each year between July 16 and July 31.

2015 Water Sustainability Fund Application's Final Score and Funded Amounts

Application number	Application <= $250,000	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Bonus	Final Score	Amount Allocated & Obligated
4121	Western Water Use Management Model Update	4	4	4	4	2	4	4	2	0	2	2	2	2	2	2	0	40	235,500
4118	Estimating Recharge toward Sustainable Groundwater and Agriculture, Central Platte NRD	2	4	4	2	2	4	4	2	2	2	2	2	2	2	2	0	38	151,680
4126	Platte and Elkhorn River Valley Integrated Water Monitoring	2	4	2	4	4	4	2	2	1	2	2	1	2	2	2	0	36	64,200
4124	Groundwater Management program review for Water Sustainability	2	4	2	4	2	4	2	2	1	2	3	1	2	2	2	0	35	249,900
4133	Aerial Electromagnetic Survey of the Bazile Groundwater Management Area	4	4	2	4	2	4	0	2	2	2	2	2	1	2	2	0	35	81,270
4132	Lower Platte South NRD Aquifer Framework Mapping	4	4	2	2	4	4	0	2	2	2	2	1	1	2	2	0	34	250,000
4125	Secondary Bedrock Aquifer Reconnaissance Sampling in Eastern Nebraska	2	4	2	4	4	4	0	2	1	2	2	1	2	1	2	0	33	96,300
4142	Lower Platte North NRD - Aquifer Framework Mapping	4	4	2	4	4	4	0	2	0	2	2	1	1	1	2	0	33	250,000
4143	Mapping Aquifer Characteristics of the Lewis and Clark NRD using Aero Electromagnetics	4	4	2	4	2	4	0	2	2	2	2	1	1	1	2	0	33	61,200
4144	Lower Loup NRD - Aquifer Mapping	4	4	2	2	4	4	0	2	2	2	2	0	0	2	2	0	32	250,000
4140	P-MRNRD Sarpy County Aquifer Mapping	4	4	2	4	2	4	0	2	1	2	2	0	0	2	2	0	31	240,000
4135	Groundwater Management for Mid-Summer Declines	4	4	4	4	2	4	0	0	1	2	2	0	0	0	2	0	29	200,000
4141	Lower Elkhorn NRD - Aquifer Framework Mapping	4	4	2	4	2	4	0	2	2	2	0	0	0	0	2	0	28	250,000
																		TOTAL	2,380,050

Application number	Applications > $250,000	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Bonus	Final Score	Amount Allocated & Obligated
4117	Aquifer Storage and Restoration Nitrate and Uranium Control Project, Hastings Nebraska	6	4	2	4	4	4	2	4	3	2	2	2	2	2	2	2	47	4,410,000
4122	Lower Elkhorn Water and Soil Conservation Program	4	4	4	4	4	4	0	2	1	2	2	2	2	2	2	0	39	900,000
4119	NPNRD Groundwater Retirement Program	0	6	6	4	4	4	4	0	0	2	3	2	0	0	0	0	35	900,000
4123	E65 Canal Lining Project	0	4	4	4	4	4	0	0	0	2	2	2	1	2	2	0	31	0
4129	Middle Loup Stream Flow Enhancement	4	2	4	4	4	2	0	0	1	2	2	2	2	1	0	0	30	0
4137	P-MRNRD - West Branch Papillion Creek Regional Detention Structures 5, 6 and 7 (WP-5, 6 & 7)	0	0	0	6	4	4	2	4	2	2	0	2	0	2	2	0	30	0
4134	Advanced Hydrogeologic Frameworks for Aquifer Management in Critical Sections of the Platte River Basin	0	4	2	4	2	4	2	0	0	2	2	1	1	2	2	0	28	0
4138	Mitchell Wastewater Treatment System Improvements	4	4	2	2	2	2	0	0	2	2	2	0	0	2	0	0	24	0
																		TOTAL	6,210,000
4116	Combined Sewer Overflow Project																	CSO	2,900,452
																		GRAND TOTAL	11,490,502

Meet Us At The Fair!

NeDNR will again join STEMming Into The Future at the 147th Annual Nebraska State Fair

The smell of corn dogs, fried Oreos and cotton candy—sheep, cows, horses, pigs, chickens, bunnies, goats…
The sounds of carnival barkers, marching bands and the happy shrieks of roller coaster riders. (Or is that terrified shrieks?)
The taste of Nebraska beef, corn on the cob and fried Oreos.
It can only be the 147th Nebraska State Fair in Grand Island.
NeDNR will once again take part in the University of Nebraska's STEMming Into The Future exhibit in the Nebraska Building.
STEMming Into The Future focuses on STEM education (Science, Technology, Engineering and Mathematics).
Planning is still underway, but expect to see a variety of models and equipment used by our scientists and engineers in water planning and safety. New this year: Meet Karl the dam inspection camera. Watch as engineers guide him through a "dam" encountering obstacles—and sometimes creatures!
Our water quiz returns this year to test your knowledge of all things H2O.
Be sure to stop by and learn a little about our most precious natural resource.
When the Fair is over, be sure to check out Husker Harvest Days. Also held in Grand Island. Husker Harvest Days runs September , and .
NeDNR will be inside the Nebraska Association of Resource Districts' (NARD) building. Stop by, say hello, ask questions of our knowledgeable staff about water management in Nebraska.

Weather-Ready Nation Ambassador

NeDNR is proud to be a Weather-Ready Nation Ambassador and pleased to bring you some tips for staying safe in the summer heat.

Weather-Ready Nation by the National Weather Service and the National Oceanic and Atmospheric Administration offers great tips on how to stay safe in all kinds of weather.
They have tips on dealing with extreme heat and humidity, where to go to be safe in a tornado, and how not to get struck by lightening.
They offer tips on being safe working in all kinds of weather.
They also provide up-to-the minute information on current severe weather and threats, so you can be prepared for what may come your way.
As we all know, the weather in Nebraska can change in a hurry. Getting weather alerts on social media through a network of Weather-Ready Nation Ambassadors can save lives.
NeDNR is proud to be an Ambassador, and we are pleased to pass along alerts and warnings to our stakeholders through social media.

Nebraska
Department of Natural Resources
Water Today. Water Tomorrow.

301 Centennial Mall South, Fourth Floor
PO Box 94676
Lincoln, NE 68509-4676
402-471-2363

dnr,nebraska.gov

Nebraska
Department of Natural Resources
Water Today. Water Tomorrow.

Now Hiring:

Strong leaders • Good communicators • Dynamic thinkers • Team players

Assistant Director of Water Administration, Permits and Registrations Divisions

Qualifications: Master's degree in engineering, hydrology, geology or related field AND five years of experience performing technical and administrative duties related to water resources management including experience in a supervisory position OR Bachelor's degree in engineering, hydrology, geology or related field AND seven years of experience performing technical and administrative duties related to water resources management, including experience in a supervisory position.

Assistant Director of Water Planning and Engineering and Technical Services Divisions

Qualifications: Professional experience in an engineering field applicable to the employing agency AND must possess a Professional Engineer (P.E.) license at the time of application, and be licensed by the Nebraska Board of Engineers and Architects at the time of employment or be able to obtain such license within 90 days of employment AND seven to ten years of experience in natural resources planning and/or administration, with a minimum of five years in a supervisory position

For full job listings or to apply, please visit http://statejobs.nebraska.gov/